Unit 1: Systems of Linear Equations ~ Summary

1. Graphing a Line
   a) Slope-intercept
   Rearrange equation to solve for y: **y = mx + b.**
   Plot the y-intercept (b).
   Use the slope two ways to give you directions from the y-intercept to your other points
   slope (m) = $\frac{rise}{run}$.

   b) Intercepts
   X-intercept: set y = 0 and solve for x.
   Y-intercept: set x = 0 and solve for y.
   Use this method mainly if y-intercept is a decimal or fraction.

2. Modelling Linear Systems
   Clearly define 2 variables, including units: "Let __ represent..."
   Write 2 *different* equations using only the 2 variables you defined.

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3. Solve by Graphing
   - graph both lines
   - read/state the POI off the graph (the coordinates of the point where the two lines intersect)
   - remember to label lines with original equations

4. Solve by Substitution
   - look for a variable with a coefficient of 1 or -1
   - solve for that variable in that particular equation
   - substitute into the OTHER equation
   - state the POI
   Verify

5. Solving by Elimination
   - rearrange each equation into Ax + By = C form
   - line the equations up vertically
   - eliminate one of the variables by adding or subtracting the 2 equations
   - if one pair of the variables does not have the same coefficient, you will have to multiply one or both of the equations to get the coefficients the same before you can add or subtract
   - **BE CAREFUL WHEN SUBTRACTING A NEGATIVE**
   - state the POI

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Review Questions p. 62 & 63

q. 2,3,5-8,12-14,16-18

Self Test p.64

q. 1, 3-9

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